UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/511,955	02/23/2000	Charlie Ghahremani	37072/JEC/X2	3897

			EXAMINER
35114	7590	05/10/2004	FERRIS, DERRICK W

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ART UNIT	PAPER NUMBER
2663	19

DATE MAILED: 05/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/511,955	GHAHREMANI ET AL.
	Examiner	Art Unit	
	Derrick W. Ferris	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>05 April 2004</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is

   closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,2,5,6 and 9-21</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,2,5,6 and 9-21</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>25 November 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage

      application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   **Claims 1, 2, 5, 6, and 9-21** as amended are still in consideration for this application.

Applicant has amended claims **9, 10, 12, and 14.**   Applicant has added claims **16-21.**

2.   Examiner **withdraws** the claim objection(s) for Office action filed **01/05/04.**

3.   Examiner **withdraws** the 112-second paragraph rejection(s) for Office action filed

01/05/04.   Examiner thanks applicant for making the necessary corrections to clarify the recited

claimed subject matter and thus withdraws the rejection.

4.   Examiner **withdraws** the anticipated rejection to *Hardwick* for Office action filed

04/05/04.   Upon carefully reviewing applicant's remarks, the examiner agrees that *Hardwick*

may not clearly teach that each interface supports different data link protocols, see e.g., column

27, lines 7-20 in reference to two or more interfaces (and not one interface).

5.   Examiner does **not withdraw** the obviousness rejection to *Chau* for Office action filed

04/05/04.   In addressing applicant's arguments in the response filed **01/05/04,** applicant argues

that *Chau* fails to disclose any one physical port that is adapted to receive connection requests

having different protocols, and then dynamically bonding the appropriate protocol to the port.

Examiner respectfully disagrees. In particular, *Chau* teaches during initialization for a stand-

alone or single network access server, logical ports and physical ports are allocated. Later (i.e.,

sometime after system initialization) these ports are bonded when a client dials into the network

access server. See column 9, lines 60-65. Applicant argues that figure 9 only shows a physical

port supporting PPP. Applicant is correct that figure 9 only shows PPP. However, as mentioned

in the disclosure, figure 9 only shows *some* of the major data structures, emphasis column 11,

lines 10-12. A more complete picture may be taught in column 14, lines 27-67. In addition, a

more representative figure is figure 4. At this point it is also important to note that the feature

that applicant argues may not be recited in the claims. In particular, that the dynamic bonding is

for a layer 2 protocol. In response to applicant's argument that the references fail to show certain

features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the

first and second protocol are layer 2 protocols) are not recited in the rejected claim(s). Although

the claims are interpreted in light of the specification, limitations from the specification are not

read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In particular, examiner notes that a layer 2 protocol is not recited until the dependent claims and

thus if for the identified protocol. Thus examiner notes two subtle interpretations of the

reference: one interpretation using a level 3 protocol (i.e., network layer) and one interpretation

using a level 2 (i.e., data-link layer) protocol in reference to figure 4 of *Chau*. <u>Both

interpretations apply to the rejection.</u> Finally, applicant argues that *Chau* fails to disclose

dynamically bonding the identified protocol to a port between successive sessions. Examiner

would like to point out that "successive sessions" may not be clearly recited in the claims such

that examiner has taken a reasonable but broad interpretation of "successive sessions". For

example, claim 1 merely recites bonding a protocol for two distinct sessions (and not necessarily

successive sessions). As such, applicant further argues that *Chau* fails to disclose that the layer

two protocol *changes* from initialization-to-initialization. Examiner respectfully disagrees since

the bonding is performed when an individual client dials in. As the reference teaches that clients

uses different protocols, one skilled in the art would draw from the reference that during a

second or different session a different protocol would be used if the client uses a different

protocol. In other words not taught by the reference is having the same client use the same

physical port each time a call is made but that clients can use a protocol determined at initiation

(i.e., performing a connection request).

However upon further review, the examiner has removed the rejection for claim 15 since

it may not be clear, using similar logic, that the ingress enable port is enabled with a plurality of

layer two protocols.

Examiner would like to point out that *Chau* teaches allocating logical and physical ports

and then binding these ports when a call is made, see column 9, lines 60-65. Examiner would

like to point out that primarily at issue is the concept of dynamically bonding an identified

protocol. In particular, *how* a protocol is dynamically bonded is not recited in the claims.

Instead in order to perform the concept of dynamically bonding the reference only needs to

disclose allowing the port to transmit packets according to a first protocol during a first

communication and a second protocol during a second communication. As such, *Dobbins*

teaches another slight different interpretation of the recited claim. In particular, *Dobbins* teaches

performing bounding the protocols at initialization, however, multiple protocols are bounded to

an interface such that the port can transmit two different protocols on a session-by-session basis

thus meeting the limitation of the claim (see below).

The examiner is willing to withdraw the *Chau* rejection if applicant amends the

***independent* claims to further clarify: (1) the *identified* protocol, the *first* protocol, and the**

***second* protocol are all layer-two protocols and (2) that dynamically bonding is performed**

***without* having to re-initialize.**

Claim Objections

6.   **Claim 19** is objected to because of the following informalities: point-to-point protocol

over Ethernet is actually PP_PoE and not PPoE (see RFC 2516). Applicant's written disclosure at

page 44, first paragraph is also incorrect. Appropriate correction is required.

Claim Rejections - 35 USC § 112

7.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

8.   **Claim 5, 6, and 10** are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention. Claim 5 lacks antecedent basis for "the input port" at line 4.

Claims 6 and 10 depend on rejected claim 5.

Claim Rejections - 35 USC § 102

9.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on
> sale in this country, more than one year prior to the date of application for patent in the United States.

10.   **Claims 1, 2, 5, 6, and 9-14** are rejected under 35 U.S.C. 102(b) as being anticipated by

U.S. Patent No. 5,509,123 A to *Dobbins et al. ("Dobbins")*.

              As to **claim 1**, *Dobbins* discloses a distributed autonomous object architecture for

network layer routing. For example, see figure 4 in reference to column 7, lines 30-40.

In reference to the claim limitation, see section B.4 on Framing in *Dobbins*. In particular,

and in reference to figure 5, framing objects are instantiated for each type of framing a

protocol framing engine supports and are bound to the interface object to which the

forwarding engine is attached, see e.g., column 12, lines 52-54. Thus an interface

supports more than one frame type of data link layer. What is of particular interest is

column 13, lines 5-50 which teaches although the framing objects are bound to the

interface and media drivers when they are constructed, an interface supports more than

one framing object since the network layer protocol can select and use any of the

allocated Framing Objects to register to receive and transmit network layer packets. For

example, one physical Ethernet interface that supports IP can support 802.2 LLC and

SNAP for the same interface which are two different data link protocols. Thus by

definition these protocols are dynamically bonded on a session-by-session basis (one

session for each IP station). Examiner would like to point out that if the framing protocol

is not identified on the interface then communication cannot take place.

As to **claim 2**, see column 13, lines 47-50.

As to **claim 5**, see similar rejection to claim 1.

As to **claim 6**, see similar rejection to claim 2.

As to **claims 9 and 10**, see e.g., column 13, lines 20-36.

As to **claim 16**, see similar rejection to claim 1.

Claim Rejections - 35 USC § 103

11.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

12.   **Claims 1, 2, 5, 6, 9-14 and 16-17** are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent No. 6,233,232 to *Chau et al.* ("*Chau*").

As to **claims 1, 5, 11, 13 and 16-17**, *Chau* discloses general means for identifying

a protocol, dynamically bonding the identified protocol, and adding encapsulation

information. Specifically, *Chau* discloses a modular architecture for connecting a

plurality of network access servers 100, 120, and 130 together over network 130.

Examiner notes for this rejection a switch is a network access server. Shown in figure 4

is kernel 400 that comprises drivers at the physical layer which setup a connection with

the data-link layer. Examiner specifically notes that a PPP connection is established over

an Ethernet interface, T1 interface, or ISDN interface as shown in figure 4 of *Chau* and in

relation to applicant's specification on page 44, lines 30-35 with respect to PPP being

generally "bonded" to at least ISDN and T1. Examiner notes the general bonding is

further illustrated in figures 6 and 7 of *Chau* with respect to setting or establishing a data

connection path (i.e., a conventional data path) [columns 9-10]. In addition, examiner

notes a broad but reasonable interpretation of a PIF object as defined by applicant in

applicant's specification on page 3, lines 1-5. Thus taught specifically by the reference is

that when a client dials into the network access server (i.e. switch) across one of the

telephone lines, a physical port is bound to a logical port [column 9, lines 60-65].

Examiner notes that the routing engine 108, 112, and 128 is used to further route or

forward the data block to a destination address.

Examiner notes it may not be clear from the reference on a second protocol.

Examiner notes that it would have been obvious to someone skilled in the art prior to

applicant's invention to select a second protocol. As motivation, *Chau* discloses

selecting a layer two protocol when bonding a physical port to a logical port where the

logical port information includes PPP and SLIP (see figure 4).

As to **claims 2 and 6,** *Chau* discloses using memory as shown in figure 3 to store

the encapsulated information.

As to **claims 9, 10, 12, and 14,** PPP is a layer two protocol.

13.   **Claims 11-12, 13-15 and 17-21** are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent No. 5,509,123 A to *Dobbins et al.* ("*Dobbins*").

As to **claim 11,** see similar rejection to claim 1. *Dobbins* may be silent or

deficient to configuring the port with a second protocol upon expiration of the

communication session.   Examiner note that it would have been obvious to one skilled in

the art prior to applicant's invention to configure the port with a second protocol upon

expiration of the communication session. In particular, one skilled in the art would be

motivated to make the purposed modification to directly connect more than one IP station

at a time. For example, examiner notes that upgrading a station or adding a new station

would create a new session. In particular, *Dobbins* provides for the motivation at

column 2, line 1-4.

As to **claim 12,** see e.g., column 13, lines 20-36.

As to **claim 13,** see similar rejection to claim 11.

As to **claim 14,** see similar rejection to claim 12.

As to **claim 15,** see similar rejection to claim 11.

As to **claims 17-21**, *Dobbins* does not specifically teach PPP, PPPoE, PPP/FR, L2TP, and L2F. However, examiner notes that such teachings are either implicit or obvious in light of the teachings. Thus examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the further limitations of PPP, PPPoE, PPP/FR, L2TP, and L2F. In particular, the clear motivation is provided at column 12, lines 62-67. Specifically, PPP is RFC 1661, PPPoE is RFC 2516, L2TP is RFC 2662 and L2F is RFC 2341 which are all IETF specifications.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (703) 305-4225. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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